



# Custom Lens Shapes for Eyewear

Written By: Kiers



## TOOLS:

- [Inkscape or other vector graphics editor \(1\)](#)
- [Laser cutter \(1\)](#)



## PARTS:

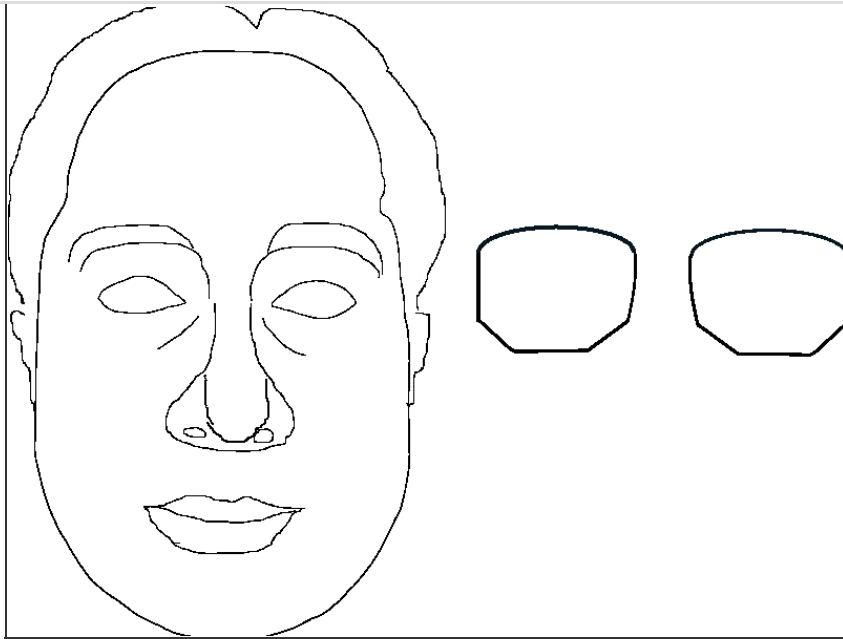
- [4" x 6" plexiglass/acrylic sheet \(1\)](#)

## SUMMARY

Do you wear glasses? Most opticians have eyeglass frames that are all a variation on the standard flat long (side-to-side) rectangle scheme. This may be fine for people with skinny long faces, but it's unsuitable for other face types.

Rimless lenses can be ANY shape you desire (even shapes that you don't find at the opticians). This guide inspires you to make your own lens shape to better suit your face. You can use the dummy lens you create to make your actual rimless glasses.

## **Step 1 — Custom Lens Shapes for Eyewear**



- Take a good picture of your face without glasses.
- Import the picture into Inkscape or other vector graphics software. Keep the picture as the bottom layer of the graphics. You will create your lenses on top of this.
- Draw a lens shape (preferably using the "bezier tool" or a predetermined geometric tool) around your eyes in the image.
- My motivation was to choose a shape which echoes my jaw shape and fits the eye-socket space.
- You can see in the image that for my wide-ish face, I needed some type of "geometric" design. I chose smooth on top, and more like the half of a stop sign on the bottom. But, the outside slopes were chosen to be parallel to a portion of my jaw line. The inner slope matches the slope of where my cheeks begin below my eye.
- You can choose a similar strategy, or use whatever geometric shape you think looks COOL (e.g., a "sprockets" look!).
- After you are satisfied with the lens shape, duplicate the SAME shape for your other eye, flip it about its vertical axis and move it over the

image of your other eye.

- Check the dimension of your lenses in your graphics software. Inkscape allows you to measure the size of your drawing in pixels, inches, or centimeters. If you've been wearing eyeframes for some time, you may be familiar with your favorite frame size, e.g., 51/18/140. That's 51mm lens size. When sizing, be sure you drag the picture elements so that they scale PROPORTIONALLY.

**Step 2**



- All systems go so far? Then you are ready for laser cutting. Get access to a laser cutter (if you visit maker faires you will meet these guys who run "hacker spaces") or just Google for commercial providers.
- If you like, take a paper printout in 1:1 size of the lenses. (Just print the top layer of your graphics drawing.)
- Cut out the paper lenses and do a physical trial on your face. If all is well go to next step, else go back to the software and alter the shape.
- Give your lenses-layer-only graphics file to the laser cutter. Ask if he or she accepts Inkscape's .svg format or else convert the Inkscape .svg to the format the laser cutter wants.
- Take one of the resulting acrylic sheet "dummy lenses" (like the one shown in the photo) and give it to a willing optician.
- All commercial opticians use an automatic routing/tracing machine to cut the actual prescription lens for a rimless frame using the dummy lens that is already in their frame at the shop. You need an optician that will instead accept your custom dummy lens.

- I have found a nice, competent, and inexpensive optician online who accepted my dummy-lenses-based order:

<http://eyeglassdirect.com>.

### Step 3



- Get your rimless glasses back and voilà, you're all set with your custom shape.

This document was last generated on 2012-11-03 02:44:54 AM.